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# Self esteem, optimism and exams' anxiety among high school students

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**Abstract**

The study aims to examine the impact of optimism and exams' anxiety on high school students' self esteem. 200 students from four high schools from Bucharest, Romania participated in the study, 100 facing an upcoming national examination (class 12) and 100 with only their regular exams (class 10), 82 male and 118 female, aged 15 - 19 years (M = 16,78, SD = 1,281). Data were collected with three self-rating questionnaires assessing optimism, self esteem and anxiety.
The research's results could be used by school counsellors in developing programs aiming to increase their ability to maintain constant their self-esteem even in uncertain and adverse conditions.

*Keywords: Self esteem, optimism; exams' anxiety, high school students.*

## 1. Introduction

Researches have shown that each of the stages of nowadays formal education is characterized by a significant increase in students' tasks and responsibilities and consequently in stressors and level of stress (Hampel et al., 2008).

One of the most important stressors in students' life was mentioned the assessment or the tests (Jindal-Snape and Miller, 2008), researchers noticing that test anxiety has increased over time, possibly due to an increase in testing and testing requirements (Whitaker et al., 2007).

In approaching the students' exam anxiety, this study has considered both their dispositional factors, as well as the situational ones. For the dispositional factors, the optimism was considered representative, while for the situational factors were considered the following: a) the relevance of the exam to be taken (great, for national exam, with a great implications regarding the students' future, meaning that its' results will determine whether the students are admitted or not in college – for the 12th grade vs. normal, usual examinations – for the 10th grade); b) the social and economic level of the area in which the school unit is located (medium, usual – for the high schools in the city's outskirts; or high, supportive – for the high schools in the central area of Bucharest).

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## 2. Conceptual framework for the study of students' self-esteem, optimism and exam's anxiety

### *2.1. Exam's anxiety - a challenges for the nowadays high school students*

The examinations in peoples' life are the contexts in which both the positive and negative psychological components are activated: the motivation to achieve is mixed with the fear of failure (Putwain, 2009), optimism and self esteem with doubts regarding their own worth.

It is agreed that "the experience of being evaluated, critiqued, or judged commonly results in an emotional reaction of uneasiness, uncertainty, or apprehension" (Donaldson et al., 2002, p.261).

In general, evaluation anxiety refers to "the set of (primarily) affective, and also cognitive and behavioral responses that accompany concern over possible negative consequences contingent upon performance in an evaluative situation" (Donaldson et al., 2002, p.262). According to the literature, test anxiety is defined as an individual's physiological, cognitive, and behavioral responses that stimulate negative feelings about an evaluation (Nicaise, 1975), or as "an inability to think or remember, a feeling of tension, and difficulty in reading and comprehending simple sentences or directions on an examination" (Suinn, 1968, quoted in Ringeisen and Buchwald, 2010, p. 432). Researchers have stated that the test anxiety include emotionality, worry, cognitive interference, and a lack of self-confidence (Zeidner, 1998; Whitaker et al., 2007).

Literature mentions as sources of the evaluation anxiety: dispositional sources (excessive ego involvement, excessive fear of failure and negative consequences), situational sources (social norms, role ambiguity) and interaction of dispositional sources with situational sources (Donaldson et al., 2002, p. 264). The situational factors can intervene as moderators between trait test anxiety and other internal resources.

### *2.2. Self-esteem and optimism*

In their literature review regarding self esteem, Blascovich and Tomaka (1991) affirmed that "in common parlance self esteem is the extent to which one prizes, values, approves or likes oneself" (p115). Generally, self esteem was approached as a unidimensional construct (Rosenberg, 1965, 1989) and as a personality trait stable across time within individuals, but influenced between certain limits by many factors (Englert, Weed, & Watson 2000). Researches identified numerous relationships of self-esteem, some of them conditional and some determinant. Therefore, self esteem was related to academic achievement and academic success (Purky, 1970), depression and social anxiety (Moeller, 1994), self-efficacy, ego strength, hardiness, optimism and adjustment (Bernard et al., 1996). The relationship between self esteem and test anxiety, among high school students was less studied, although the emotional and behavioral consequences of variation in their self esteem levels are well known.

In this study, optimism was approached as a dispositional resource, "as a generalized tendency to expect positive outcomes, as the belief that good rather than bad things will happen in a person's life" (Scheier & Carver, 1993, p. 26) and as "the degree to which people expect the best in uncertain times" (Aspinwall et al., 2005, p.357).

## 3. Research Methodology

### *3.1. Objectives and research questions*

The study aims to examine the differences in self esteem, optimism and exams anxiety according to the relevance of the exams (class) and educational context – supportive vs. very supportive (school's location the students attend) and the impact of optimism and exams' anxiety on high school students' self esteem.

For the purpose, of the study, the following research questions were directed a) Are there differences in high school students' level of self-esteem, optimism and exam's anxiety according to their gender, class and learning contexts (school they attend)?, b) What combination of learning contexts' factors differentiates better self-esteem, optimism and exam's anxiety?, c) To what extent gender, class, learning contexts (school they attend) and level of optimism and of exam's anxiety influence students' self-esteem?.

### *3.2. Research participants*

Participants in this study were 200 students, from four high schools differentiated by their location (two from the central area and two from a peripheral area of Bucharest, Romania), 100 students in their last high school year - facing their regular exams and an upcoming national examination with a high relevance (class 12) and 100 with only their regular exams (class 10), 82 male and 118 female, aged 15 - 19 years (M = 16,78, SD = 1,281).

### *3.3. Measures*

Data were collected with three self-rating questionnaires assessing optimism, self esteem and anxiety.

Self-esteem scale (Rosenberg, 1965, 1989, Blascovich & Tomaka, 1991) is a 10 items scale to be answered on five Likert-type scales from 1 (strongly disagree) to 5 (strongly agree). Example of items: "On the whole, I am satisfied with myself"). The scores range from 10 to 50, with higher scores indicating higher self-esteem.

Life Orientation Test – Revised/LOT-R (Scheier et al., 1994) consists of 12 items. Responses to the questions (e.g., "I'm always optimistic about my future") were indicated on a 5-point scale, using the response format, from 1= "strongly disagree" to 5 = "strongly agree". The scores range from 12 to 60, with higher scores indicating higher levels of optimism.

The Test Anxiety Scale (TAS) is a self-report scale, developed based on Spielberger's (1979, 1980) Test Anxiety Inventory (TAI) to measure students' anxiety related to their upcoming exams. It is a 10 items scale, with answers in a 5-point scale, from 1= "strongly disagree" to 5 = "strongly agree". The respondents are asked to report their agreement/disagreement with the statements that are referring to worry and emotionality when they are thinking to the tests they will take (regular or graduation test) (e.g., "I ask myself whether my performance will be good enough; "I have not enough faith in my own performance"). The scores range from 10 to 50, with higher scores indicating higher levels of exams' anxiety. The psychometrics was very good (table 1)

The study was conducted 1 month before the students' regular exams and 1 year before the national examination but with the preliminary simulations of this national examination started already for the 12th graders.

Participation was voluntarily and anonymity was guaranteed. The questionnaires have been completed individually by the subjects, the operators providing supplementary explanations where the case. Active consents of the students and their parents were collected. The Statistical Package for the Social Sciences (SPSS) was used to analyze the data.

## 4. Results

### *4.1. High school students' self esteem, optimism and exams' anxiety*

As shown in Table 1, the mean score for the students' self esteem and optimism are below 4 (3.99 and 3.74), showing a high level, but not the highest; while exams' anxiety, are 2.65 (between low and moderate level).

Table 1. Descriptive Statistics for the measured variables

| Variable | Mean | SD | Skewness | Kurtosis | Alpha reliability |
|---|---|---|---|---|---|
| Self-esteem | 3.99 | .58 | -.82 | 1.45 | .89 |
| Optimism | 3.74 | .79 | -.370 | -.74 | .73 |
| Exams' anxiety | 2.65 | .75 | .06 | -.70 | .92 |

Table (1) shows that all the reliability coefficients are high.

Correlational analysis identified significant negative relationships of both self esteem and optimism with exams' anxiety and a positive relationship between self esteem and optimism (table 2).

The Pearson correlation coefficients (table 2) show that the relationship between optimism and exams' anxiety is stronger than the negative relationship between self esteem and exams' anxiety.

Table 2. Correlations between students' self esteem, optimism and exams' anxiety

| Scale | Self-esteem | Optimism | Exams' anxiety |
|---|---|---|---|
| Self-esteem | 1 | | |
| Optimism | .55 | 1 | |
| Exams' anxiety | -.36 | -.47 | 1 |

### *4.2. Differences in high school students' self esteem, optimism and exams' anxiety*

In order to examine the differences in high school students' self esteem, optimism and exams' anxiety, a series of inter - groups' comparisons with T – test were carried out.

#### *4.2.1. Differences in high school students' self esteem, optimism and exams' anxiety, according to the exams' relevance (national vs. regular)*

The Independent t-tests revealed that students facing an upcoming national examination (class 12) reported a higher level of anxiety and of self esteem compared with the students from class 10. No differences between studied groups as far as optimism is concerned were found (table 3).

Table 3. Scales' means, standard deviation and T-Test for differences according to the exams' relevance

| Scale | Class | Item mean | Std.Deviation | T |
|---|---|---|---|---|
| Self esteem | Class 10 | 3.86 | .63 | -3.37** |
| | Class 12 | 4.13 | .49 | |
| Optimism | Class 10 | 3.80 | .53 | 1.01ns. |
| | Class 12 | 3.68 | .98 | |
| Exam anxiety | Class 10 | 2.39 | .69 | -5.28** |
| | Class 12 | 2.92 | .72 | |

*p<0.05, **p<0.001

$10^{th}$ grade - regular exams (n = 100); $12^{th}$ grade - national exams (n = 100)

#### *4.2.2. Educational context differences in high school students' self esteem, optimism and exams' anxiety*

The comparison of the means of students from central high school with the means of students from periphery high school on self esteem, optimism and exam anxiety show that the students from central high school have a

higher level of optimism and self esteem and a lower level of anxiety, than the students from periphery high school (table 4).

Table 4. Educational context differences in high school students' self esteem, optimism and exams' anxiety

| Scale | Educational context | Item mean | Std.Deviation | T |
|---|---|---|---|---|
| Self esteem | Periphery high school | 3.85 | .52 | -3.28** |
| | Central high school | 4.11 | .60 | |
| Optimism | Periphery high school | 3.26 | .72 | -9.27** |
| | Central high school | 4.13 | .60 | |
| Exams anxiety | Periphery high school | 2.87 | .80 | 3.81** |
| | Central high school | 2.47 | .67 | |
| *p<0.05, **p<0.001 | | | | |
| Periphery high school (n = 90); Central high school (n = 110) | | | | |

*4.2.3. Gender differences in high school students' self esteem, optimism and exams' anxiety*

The Independent *t*-tests indicate that girls scored significantly higher than boys on optimism. There were no statistically significant differences between girls and boys as far as the self-esteem and exams anxiety is concerned even if it can be noticed that compared with boys, girls reported a higher level of self-esteem and a lower level of anxiety (table 5).

Table 5. Item mean and standard deviation for gender differences in high school students' self esteem, optimism and exams' anxiety

| Scale | Class | Item mean | Std.Deviation | T |
|---|---|---|---|---|
| Self esteem | Males | 3.90 | **.46** | -1.90ns. |
| | Females | 4.06 | .64 | |
| Optimism | Males | 3.36 | **.75** | -6.18** |
| | Females | 4.00 | .70 | |
| Exams anxiety | Males | 2.71 | **.81** | .89ns. |
| | Females | 2.61 | .71 | |
| *p<0.05, **p<0.001 | males (n = 82); females (n = 118) | | | |

*4.2.4. Main and interaction effects of gender, exam's relevance and educational context on their level of self esteem, optimism and exams' anxiety*

In order to answer the question about differences in high school students' self esteem, optimism and exams' anxiety according to gender, class and school's location the students attend a series of MANOVA and ANOVA's were performed.

MANOVA revealed educational context, examinations' relevance as single factors and interaction between educational context and examination's relevance differentiated all the three variables together (self esteem, optimism and exams' anxiety) as a pattern of students' response to the measured situation. Students' gender in interaction with the educational context differentiated a pattern configured only by self esteem, optimism (table 6).

Table 6. Main and Interaction effects of gender, grade level (exams' relevance), school's location on students' self esteem, optimism and exams' anxiety

| Source | Dependent variable (s) | Results from ANOVA |
|---|---|---|
| Gender | Exams' anxiety | F=3.85, p = .05, Partial $\eta^2$= .02 |
| Educational context | Self esteem | F=10.39, p = .001, Partial $\eta^2$= .05 |
| | Optimism | F=43.29, p = .001, Partial $\eta^2$= .18 |
| | Exams' anxiety | F=6.97, p = .009, Partial $\eta^2$= .035 |
| Examination relevance | Self esteem | F=5.19, p = .02, Partial $\eta^2$= .03 |
| | Optimism | F=3.98, p = .047, Partial $\eta^2$= .02 |
| | Exams' anxiety | F=26.86, p = .001, Partial $\eta^2$= .12 |
| Gender * Educational context | Self esteem | F=11.20, p = .001, Partial $\eta^2$= .06 |
| | Optimism | F=3.83, p = .05, Partial $\eta^2$= .02 |
| Educational context * Examination importance | Self esteem | F=19.97, p = .001, Partial $\eta^2$= .10 |
| | Optimism | F=57.07, p = .001, Partial $\eta^2$= .23 |
| | Exams' anxiety | F=4.24, p = .037, Partial $\eta^2$= .22 |
| Error | Self esteem: SS = 902.00, DF = 200 | |
| | Optimism: SS = 929.00, DF = 200 | |
| | Exams' anxiety: SS = 935.00, DF = 200 | |
| Total | Self esteem: SS = 141.500, DF = 199 | |
| | Optimism: SS = 132.995, DF = 199 | |
| | Exams' anxiety: SS = 130.995, DF = 199 | |

ANOVA's performed to find out the main and combined effects of dispositional and situational variables related to self esteem on self esteem scores revealed 3 main effects and 2 interaction effects (table 7)

Table 7 Differences in high school students' self esteem as a function of gender, grade level, educational context, level of optimism and level of exams' anxiety.

| Source | Results from ANOVA |
|---|---|
| Exams' importance (grade-level) | F=23,90, p = .001, Partial $\eta^2$= .13 |
| Level of optimism | F=3.35, p = .037, Partial $\eta^2$= .04 |
| Level of exams' anxiety | F=7.73, p = .004, Partial $\eta^2$= .07 |
| Educational context* Level of optimism | F=3.07, p = .049, Partial $\eta^2$= .04 |
| Educational context * Level of exams' anxiety | F=6.05, p = .003, Partial $\eta^2$= .07 |

The higher self esteem score was found for the students from 12th class (facing a national examination), from a central high school, with a high level of optimism and a low and medium level of exams' anxiety (M = 4,40, SD = .482). The lower level of self esteem score was found for the students from 10th grade (facing their regular examinations), from a central high school, with low level of optimism and high level of exams' anxiety (M= 2.70, SD = .94).

### *4.3. Predictors of students' self-esteem*

In order to explore the predictive relationship between students' self esteem, optimism, exams' anxiety, examination's importance and educational context we conducted a series of regression analyses.

Self esteem was subjected as a dependent variable to three regression analyses, first entering the anchoring variables: educational context, examination's importance (grade-level) and gender (Model 1). In the second step, level of optimism was entered (Model 2) and in the third step, level of exams' anxiety was entered (Model 3).

Table 8. Determinants of high schools students' self esteem

| | Model 1 | | | Model 2 | | | Model 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| Variable | *B* | *SE* | *t* | *B* | *SE* | *T* | *B* | *SE* | *t* |
| Educational context | .27 | .086 | 3.21** | .01 | .087 | .20ns | -.008 | .079 | .92ns |
| Exams' relevance | .29 | .078 | 3.76*** | .30 | .070 | 4.40*** | .43 | .072 | 5.947*** |
| Gender | .04 | .087 | .49 ns | .08 | .078 | -1.04ns | -.028 | .076 | -.37ns |
| Level of optimism | | | | .38 | .049 | 7.70*** | .30 | .051 | 5.839*** |
| Level of exams' anxiety | | | | | | | /.21 | .049 | -4.284*** |

$R^2$ = .11,7 for model 1, $R^2$ = .32 for model 2, and $R^2$ = .38 for model 3.
.$^{***}p < .001$, $^{**}p < .05$, $^{*}p < .01$.

As table 8 shows, the educational context, relevance of examination and students' gender explained 11, 7 % of the variance of self-esteem's scores, but with the optimism introduced in the equation, the model explained 32%, and when the anxiety was introduced, the model accounted for 38% of the variance of self-esteem's scores.

## 5. Discussion and conclusions

The aims of this study were to gain a more highly defined understanding of relationship between high school students' self esteem, optimism and exams' anxiety.

We appreciate that the objectives of this study have been successfully met as the above presented results answered the research questions.

Findings revealed significant differences in students' self esteem, optimism, exams' anxiety as a function of educational context (grade level and school' location) and significant differences in students' self esteem as a function of educational context (grade level and school's location) and as a function of personal factors (optimism and anxiety). The results showed a negative relationship between self esteem and optimism and anxiety that it is in line with previous studies (Spielberger, 1966; Rosenberg et al., 1989; Ringeisen and Buchwald, 2010). The results reveal that there are sex differences in self esteem, optimism and exams' anxiety (accordingly with findings of previous studies, e.g. Pomerantz, Altermatt, & Saxon, 2002; Mook et al., 1992, Ringeisen and Buchwald, 2010). The results support the idea that students' perceptions of their educational environment and their personality characteristics are linked with test anxiety.

Considering the results of the present study, certain limitations should be kept in mind. The study sample did not represent all Romanian high school students. Depending on this limitation, the findings of the study need to be replicated on more representative and wide samples of secondary and high school students. Future studies could benefit from a larger sample size, selecting participants from other parts of the country. Another limitation of the study comes from the fact that the research data were gathered with the help of self-report scales based on their own perceptions. Therefore, the findings are limited by their assessments, and further efforts with the use of different scales and methods may expand these findings. On the other hand, future studies could include more variables (e.g. adolescents' social and academic background).

Despite these limitations, the present study provides new evidences that have important implications for school counseling programs; especially it can contribute to the understanding of "the antecedents and consequences of evaluation anxiety within the context of program evaluation" (Donaldson et al., p. 262). The results could be used by school counselors and advisors in developing programs aiming to reduce students' exams anxiety and to increase their ability to maintain their self-esteem constant in uncertain and adverse conditions.

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